

OBSERVATIONS ON THE FLOWERING TIMES AND HABITATS OF SOME VICTORIAN ORCHIDS.

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As many members of the Field Naturalists' Club have from time to time asked for information regarding the flowering times and localities of Victorian orchids, I desire to submit a list of my observations, extending over nine years, in the hope that they may be of some use to lovers of these interesting plants.

The flowering time of our native orchids varies but very slightly, according to the seasons. My father, in volumes i.-iv., 1884-88, of the *Victorian Naturalist*, described the Victorian Orchideæ then recorded, with the best modes of cultivating them, and although he gave many localities, as well as the flowering times, since then our knowledge in these respects has been considerably extended. I desire to express my thanks to Baron von Mueller for his kindness in naming the specimens, and for other information afforded me.

This list comprises about 72 species, the total number of species of orchids found in Victoria, according to Baron von Mueller's "Census of Australian Plants," being about 90. It is hoped, therefore, that other members of the Club will, at some future time, make the list complete by recording their observations as to localities and times of flowering of the few remaining species.

To avoid too much repetition I give first a systematic list with habitats, using such obvious contractions in the names of places as Chelt. for Cheltenham, Oak. for Oakleigh, Dand. for Dandenong, Sand. for Sandringham, H'ville for Healesville, And. Ck. for Anderson's Creek, &c., and then a monthly calendar of the flowering time of each species, alphabetically arranged according to the genus.

ORCHID.	LOCALITIES.
SARCOCHILUS	
parviflorus, Lindley	Yarragon, Dandenong Ranges
DIPODIUM	
punctatum, R. Br.	Box Hill, Croydon, Healesville, Anderson's Creek, Greensborough
GASTRODIA	
sesamoides, R. Br.	Box Hill, Croydon, H'ville, And. Ck., Dand. Ck., Moondara
SPIRANTHES	
Australis, Lindley	Cheltenham, Frankston
THELYMITRA	
ixioides, Swartz ...	Box Hill, Croydon, Oak., Dand. Ck.
epipactoides, F. v. M.	Sandringham, Cheltenham
aristata, Lindley ...	Sand., Chelt., Box Hill, Croyd., Werr.

THELYMITRA—*continued.*

- longifolia, Forster Werr., Box Hill, Spg. Vale, Dand. Ck.
 carnea, R. Br. ... Box Hill, Blackburn, Croyd., Spg. Vale
 flexuosa, Endlicher Spring Vale, Croydon
 antennifera, Hooker Sandringham, Cheltenham
 Macmillani, F. v. M Oakleigh, Castlemaine, Bendigo

DIURIS

- punctata, Smith ... Dandenong Ck., Spring Vale, Berwick
 maculata, Smith ... Sand., Chelt., Box Hill, Berwick
 pedunculata, R. Br. Sand., Chelt., Spring Vale, Dand. Ck.
 sulphurea, R. Br. ... Albert Pk., Sand., Chelt., Frank., Berwick
 longifolia, R. Br. ... Sand., Chelt., Oakleigh
 alba, R. Br. ... Box Hill, Upper Murray

ORTHO CERAS

- strictum, R. Br. ... Sandringham, Cheltenham
 strictum (var.) ... Sandringham, Cheltenham

CALOCHILUS

- Robertsoni, Bentham Oak., Spg. Vale, Berwick, Moe, Croyd.,
 Upper Murray

CRYPTOSTYLIS

- longifolia, R. Br. ... Sand., Mord., Oak., Lilydale, H'berg,
 Greensborough
 leptochila, F. v. M Dandenong Ranges, Mt. Mueller

PRASOPHYLLUM

- Australe, R. Br. ... Healesville, Moondara
 elatum, R. Br. ... Sandringham, Cheltenham
 patens, R. Br. ... Werribee, Sand., Chelt., Dand. Creek
 fuscum, R. Br. ... Werribee, Dandenong Creek
 nigricans, R. Br. ... Sand., Chelt., Croydon
 despectans, Hooker Box Hill, Frankston
 alpinum, R. Br. ... Mt. Mueller, Mt. Hotham
 Archeri, J. Hooker Oakleigh, Frankston, Croydon
 intricatum, C. Stuart Frankston
 Frenchii, F. v. M. Spring Vale, Dandenong Creek
 Dixoni, F. v. M. ... Oakleigh

MICROTIS

- porrifolia, R. Br. ... Studley Pk., Albert Pk., Sand., Chelt.,
 Box Hill, B'field, Werribee, &c.
 atrata, Lindley ... Cheltenham, Oakleigh

CORYSANTHES

- pruinosa, Cun'gham Sand., Chelt., Mordialloc
 unguiculata, R. Br. Oakleigh

PTEROSTYLIS

- concinna, R. Br. ... Sand., Chelt., Carrum, Frank., Oak.,
 Queenscliff, &c.
 curta, R. Br. ... Sand., Chelt., Oak., Dand. Ck., B'field,
 Box Hill
 acuminata, R. Br. Sand., Oakleigh

PTEROSTYLIS—*continued.*

- nutans, R. Br. ... Sand., Mord., Oak., Dand. Ck., Drouin,
Moe, Lilydale
- pedunculata, R. Br. Sand., Chelt., Dand. Ck.
- nana, R. Br. ... Sandringham, Cheltenham
- cucullata, R. Br. ... Sand., Chelt., Mord., Frank., Dand.
Ck., Beaconsfield
- cucullata, var. alpina Dandenong Ranges
- præcox, Lindley ... Cheltenham
- obtusa, R. Br. ... Anderson's Creek (Warrandyte)
- parviflora, R. Br. ... Sand., Chelt., Oakleigh
- barbata, Lindley ... Sandringham, Cheltenham
- mutica, R. Br. ... Dunolly, Upper Murray
- rufa, v. Mitchellii, R. Br. Anderson's Ck., Pine Mt. (Up. Murray)
- longifolia, R. Br. ... Sand., Oak., Dand. Ck., Berwick, Box
Hill, Croydon
- vittata, Lindley ... Sandringham
- aphylla, Lindley ... Sand., Chelt., Oakleigh
- grandiflora, R. Br. Cheltenham
- pedaloglossa, Fitzg. Cheltenham, Sandringham, Oakleigh
- Mackibbini, F. v. M. Queenscliff

CALEYA

- major, R. Br. ... Oakleigh, Spring Vale

ACIANTHUS

- exsertus, R. Br. ... Sand., Chelt., Mord., Oak., Q'cliff

CYRTOSTYLIS

- reniformis, R. Br. Sand., Chelt., Mord., Oak., Q'cliff

LYPERANTHUS

- nigricans, R. Br. ... Sand., Chelt., Oakleigh
- Burnettii, F. v. M. Frankston, Oakleigh

ERIOCHILUS

- autumnalis, R. Br. Sand., Oakleigh, Box Hill, Croydon,
Lilydale, Healesville, &c.
- fimbriatus, F. v. M. Sandringham, Cheltenham

CALADENIA

- Menziesii, R. Br. ... Sand., Chelt., Spring Vale
- Patersoni, R. Br. ... Sand., Frankston, Spring Vale, Q'cliff,
Bendigo, Wodonga, &c.
- latifolia, R. Br. ... Sand., Chelt., Mordialloc
- latifolia, v. alba, R. Br. Sandringham
- suaveolens, Reich. Croydon, Upper Murray
- carnea, R. Br. ... Werr., Berwick, Pakenham, Dand. Ran.,
Anderson's Ck., Plenty River, &c.
- cœrulea, R. Br. ... Sandringham, Cheltenham
- deformis (var.), R. Br. Sandringham, Cheltenham
- deformis, v. alba, R. Br. Sandringham
- Cairnsiana, F. v. M. Healesville
- testacea, R. Br. ... Box Hill, Croydon

CHILOGLOTTIS

- diphylla, R. Br. ... Oakleigh
 Gunnii, Lindley ... B. Hill, Doncas., And. Ck., B'field, Werr.
 Gorge, Myrniong, Mt. Blackw'd, &c.

GLOSSODIA

- major, R. Br. ... Sand., Chelt., Mord., Spg. Vale, Box
 Hill, &c.

CALENDAR OF FLOWERING TIMES.

- JANUARY.—*Cryptostylis leptochila*, *C. longifolia*, *Dipodium punctatum*, *Spiranthes Australis*.
- FEBRUARY.—*Chiloglottis diphylla*, *Cryptostylis leptochila*, *C. longifolia*, *Dipodium punctatum*, *Prasophyllum alpinum*, *Spiranthes Australis*.
- MARCH.—*Chiloglottis diphylla*, *Cryptostylis leptochila*, *Eriochilus autumnalis*, *Prasophyllum alpinum*, *Pterostylis grandiflora*.
- APRIL.—*Eriochilus autumnalis*, *E. fimbriatus*, *Prasophyllum Archeri*, *P. despectans*, *P. Dixoni*, *Pterostylis acuminata*, *P. aphylla*, *P. curta*, *P. grandiflora*, *P. nana*, *P. obtusa*, *P. parviflora*, *P. pedaloglossa*.
- MAY.—*Acianthus exsertus*, *Eriochilus autumnalis*, *E. fimbriatus*, *Prasophyllum Archeri*, *P. Dixoni*, *P. intricatum*, *P. nigricans*, *Pterostylis acuminata*, *P. aphylla*, *P. curta*, *P. nutans*, *P. parviflora*, *P. pedaloglossa*, *P. præcox*, *P. vittata*.
- JUNE.—*Acianthus exsertus*, *Corysanthes pruinosa*, *C. unguiculata*, *Cyrtostylis reniformis*, *Eriochilus fimbriatus*, *Prasophyllum Archeri*, *P. Dixoni*, *P. intricatum*, *P. nigricans*, *Pterostylis aphylla*, *P. barbata*, *P. concinna*, *P. curta*, *P. Mackibbini*, *P. nana*, *P. nutans*, *P. parviflora*, *P. pedaloglossa*, *P. præcox*, *P. vittata*.
- JULY.—*Acianthus exsertus*, *Corysanthes pruinosa*, *C. unguiculata*, *Cyrtostylis reniformis*, *Lyperanthus Burnettii*, *Pterostylis barbata*, *P. concinna*, *P. curta*, *P. longifolia*, *P. Mackibbini*, *P. nana*, *P. nutans*, *P. pedunculata*, *P. præcox*, *P. vittata*.
- AUGUST.—*Acianthus exsertus*, *Caladenia carnea*, *C. Patersoni*, *C. testacea*, *Caleya major*, *Calochilus Robertsoni*, *Corysanthes pruinosa*, *Cryptostylis longifolia*, *Cyrtostylis reniformis*, *Diuris longifolia*, *D. pedunculata*, *D. sulphurea*, *Lyperanthus Burnettii*, *Microtis porrifolia*, *Pterostylis barbata*, *P. concinna*, *P. cucullata*, *P. cucullata*, var. *alpina*, *P. curta*, *P. longifolia*, *P. nana*, *P. nutans*, *P. pedunculata*, *P. præcox*, *P. rufa*, var. *Mitchelli*, *P. vittata*, *Thelymitra Macmillani*.
- SEPTEMBER.—*Caladenia carnea*, *C. cœrulea*, *C. latifolia*, *C. Patersoni*, *C. testacea*, *Caleya major*, *Calochilus Robertsoni*, *Cyrtostylis reniformis*, *Cryptostylis longifolia*, *Diuris longifolia*, *D. maculata*, *D. sulphurea*, *D. pedunculata*, *D. punctata*, *Glossodia major*, *Lyperanthus nigricans*, *Microtis*

atrata, *M. porrifolia*, *Prasophyllum elatum*, *P. Frenchii*, *P. patens*, *Pterostylis barbata*, *P. concinna*, *P. cucullata*, *P. curta*, *P. longifolia*, *P. mutica*, *P. nana*, *P. nutans*, *P. pedunculata*, *P. præcox*, *Thelymitra antennifera*, *T. aristata*, *T. carnea*, *T. epipactoides*, *T. flexuosa*, *T. longifolia*, *T. Macmillani*.

OCTOBER.—*Caladenia Cairnsiana*, *C. carnea*, *C. cœrulea*, *C. deformis*, *C. deformis*, var. *alba*, *C. latifolia*, *C. latifolia*, var. *alba*, *C. Menziesii*, *C. Patersoni*, *C. suaveolens*, *Calochilus Robertsoni*, *Chiloglottis Gunnii*, *Cryptostylis longifolia*, *Diuris alba*, *D. longifolia*, *D. maculata*, *D. pedunculata*, *D. punctata*, *D. sulphurea*, *Gastrodia sesamoides*, *Glossodia major*, *Lyperanthus nigricans*, *Microtis atrata*, *M. porrifolia*, *Prasophyllum Australe*, *P. elatum*, *P. Frenchii*, *P. fuscum*, *P. patens*, *Pterostylis barbata*, *P. concinna*, *P. cucullata*, *P. curta*, *P. longifolia*, *P. mutica*, *P. nana*, *P. nutans*, *P. pedunculata*, *P. rufa*, var. *Mitchelli*, *Thelymitra antennifera*, *T. aristata*, *T. carnea*, *T. epipactoides*, *T. flexuosa*, *T. ixioides*, *T. longifolia*.

NOVEMBER.—*Caladenia carnea*, *C. deformis*, *C. Menziesii*, *C. Patersoni*, *C. suaveolens*, *Caleya major*, *Calochilus Robertsoni*, *Chiloglottis Gunnii*, *Cryptostylis longifolia*, *Dipodium punctatum*, *Diuris longifolia*, *D. pedunculata*, *D. punctata*, *D. sulphurea*, *Gastrodia sesamoides*, *Glossodia major*, *Microtis atrata*, *M. porrifolia*, *Orthoceras strictum*, *O. strictum* (var.), *Prasophyllum Australe*, *P. fuscum*, *P. patens*, *Pterostylis cucullata*, var. *alpina*, *P. pedunculata*, *P. rufa*, var. *Mitchelli*, *Thelymitra antennifera*, *T. aristata*, *T. carnea*, *T. flexuosa*, *T. ixioides*, *T. longifolia*, *Sarcochilus parviflorus*.

DECEMBER.—*Caleya major*, *Calochilus Robertsoni*, *Chiloglottis Gunnii*, *Cryptostylis leptochila*, *C. longifolia*, *Dipodium punctatum*, *Gastrodia sesamoides*, *Microtis porrifolia*, *Orthoceras strictum*, *Prasophyllum Australe*, *Pterostylis cucullata*, *Sarcochilus parviflorus*.

EGG-SHELLS OF ECHIDNA AND OTHER VERTEBRATES, by R. Neumeister ("Zeit. Biol.," 1894, 31, 413-420).—The eggshells of *Echidna aculeata* (*E. hystrix*) consist of a keratin-like substance containing 5 per cent. of sulphur. It is, however, digested neither by gastric nor by pancreatic juice. Some other keratins are similarly resistant. In invertebrates the organic basis of eggshells is chitin or some other skeleton. Keratin appears to be only present in the eggshells and membranes of vertebrate animals. In the frog only has mucin been described. The eggs of some birds and reptiles are briefly referred to in this connection. Calcium carbonate is the principal inorganic constituent.—*Jour. Chem. Socy. Abs.*, 1895, lxxviii, 54.